ABSTRACT

A multilayer film (1) is formed by alternately layering a Co-based amorphous alloy layer (2) and a natural-oxidation layer (3) of the Co-based amorphous alloy (2) on a substrate (4). A magnetic thin film for high frequencies and a magnetic device which can be used in high frequency regions of the GHz band are obtained by making a volume ratio of the natural-oxidation layer (3) to the whole multilayer film (1) fall within a range of 5 to 50%. A magnetic thin film for high frequencies is also obtainable by forming a multilayer film (1) by alternately layering the Co-based amorphous alloy layer (2) having such a characteristic that a direction of magnetic field applied in a film formation process comes to be a direction of an easy magnetization axis of the Co-based amorphous alloy layer and a natural-oxidation layer (3) of the Co-based amorphous alloy, so that the easy magnetization axis of thus formed multilayer film (1) may be perpendicular to the direction of magnetic field applied in the film formation process of the multilayer film (1).